

**Amendments to the Claims:**

Please cancel Claims 1 – 17 and 22 – 52, and add Claims 53 – 62 as indicated in the following listing of claims, which replaces all prior versions and listings of claims in the application.

**Listing of Claims:**

18. (Original) A plasma processing system comprising:  
a first substrate support structure configured to hold a first substrate in a processing chamber;  
a second substrate support structure configured to hold a second substrate in the processing chamber; and  
a transformer-coupled plasma generator within the processing chamber disposed between the first substrate support structure and the second substrate support structure.

19. (Original) The plasma processing system of claim 18 wherein the transformer-coupled plasma generator includes a toroidal transformer core.

20. (Original) The plasma processing system of claim 18 wherein the plasma generator comprises a plasma generating plate having a plurality of transformer cores within the plasma generating plate and a plurality of through holes forming conduits from a first side of the plate to a second side of the plate.

21. (Original) A method of simultaneously processing substrates in a plasma processing system, the method comprising:  
providing a first wafer and a second wafer to a processing chamber;  
flowing plasma precursor into the chamber;

generating a plasma with a transformer-coupled plasma generator disposed between the first wafer and the second wafer; and  
simultaneously processing the first wafer and the second wafer.

53. (New) The plasma processing system of claim 19 wherein the first and second substrate support structures are substantially parallel.

54. (New) The plasma processing system of claim 53 wherein a plane of the toroidal transformer core is substantially parallel to the first and second substrate support structures.

55. (New) The plasma processing system of claim 20 wherein the transformer-coupled plasma generator further includes a second conduit not passing through a transformer core.

56. (New) The plasma processing system of claim 20 wherein the plasma generating plate is flat.

57. (New) The plasma processing system of claim 20 wherein the toroidal transformer core comprises ferrite material.

58. (New) The plasma processing system of claim 20 wherein the plasma generating plate includes a dielectric spacer between the first side and the second side, and a remainder of an outer surface of the plasma generating plate comprises an electrical conductor.

59. (New) The method of claim 21 wherein providing the first and second wafers comprises providing the first and second wafers substantially parallel to each other.

60. (New) The method of claim 59 wherein the plasma generator comprises a plasma generating plate having a plurality of transformer cores within the plasma generating plate and a plurality of through holes forming conduits from a first side of the plate to a second side of the plate.

61. (New) The method of claim 60 wherein the transformer-coupled plasma generator includes a toroidal transformer core having a plane substantially parallel to the first and second wafers.

62. (New) The method of claim 60 wherein the transformer-coupled plasma generator further includes a second conduit not passing through a transformer core.